

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte TOM K. WENTZEL and GAY LYNN WOLF

Appeal 2007-2214
Application 10/032,383
Technology Center 3700

Decided July 20, 2007

Before DONALD E. ADAMS, ERIC GRIMES, and
RICHARD M. LEOVITZ , *Administrative Patent Judges*.

GRIMES, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a diaper. The Examiner has rejected the claims as anticipated or obvious. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

BACKGROUND

The Specification describes “disposable absorbent articles (e.g., a diaper) having a mechanical fastening system,” the articles comprising an outer cover and at least one fastener that “anchors to the outside surface of

the outer cover in [a] first waist region and . . . fastens the outside surface of the outer cover in [a] second waist region” (Specification 2). The term “fastener” is defined as “an active fastening material of the fastening system that interlocks with active landing material” (*id.* at 4). “The active fastening material . . . may advantageously be hook material” (*id.* at 16). The outer cover of the article may include loop material (*id.*).

The Specification also states that the anchor ends of the fasteners desirably have a shear strength of greater than 3,000 grams tensile, while the user ends have a shear strength of greater than 2,000 grams tensile (*id.* at 19). “A greater surface area of active fastening material on the anchor end . . . may provide the necessary shear strength of greater than 3,000 grams tensile” (*id.*).

DISCUSSION

1. CLAIMS

Claims 3-5, 7-9, 11-16, 20, 26, 28-31, 33, 35, 52-55, and 62 are pending and rejected. Claims 2, 17-19, 21, 22, 24, 25, 27, 32, 37-51, 56, 61, 63, and 64 are also pending but have been withdrawn from consideration by the Examiner.

Appellants appeal the rejections of claim 7-9, 11-16, 26, 28-31, 33, 35, and 55 (Br. 2). We will focus on claims 7, 11, 35, and 55, which are representative.

Claims 7 and 11 depend from claim 52, which is pending, but is not being appealed. Claims 52, 7, and 11 read as follows:

52. A disposable absorbent article comprising:
a first waist region;

a second waist region;

a crotch region extending longitudinally between the first and second waist regions, the absorbent article being foldable generally within the crotch region to configure said article with the first waist region in generally opposed relationship with the second waist region; and

at least one fastener comprising a single piece of flexible material having an active fastening surface extending continuously thereon, at least a portion of the active fastening surface being located on the fastener for anchoring to said article on landing material located generally at said first waist region and at least one other portion of the active fastening material being located on the fastener for fastening to said article on landing material located generally at said second waist region to secure said article on a wearer, the active fastening surface being covered substantially in entirety by an active fastening material different than said landing material, the active fastening material comprising one of a plurality of hooks and a plurality of loops, the landing material comprising the other of a plurality of hooks and a plurality of loops.

7. The disposable absorbent article of claim 52, wherein the active fastening material comprises a plurality of hooks.

11. The disposable absorbent article of claim 52, wherein the at least one fastener comprises an anchor end configured to have a first shear strength and a user end configured to have a second shear strength, the ends differing such that first shear strength is greater than the second shear strength.

Claim 35 depends from claim 55. Claims 55 and 35 read as follows:

55. A disposable absorbent article comprising:

a first waist region;

a second waist region;

a crotch region extending longitudinally between the first and second waist regions, the absorbent article being foldable generally within the crotch region to configure said article with the first waist region in generally opposed relationship with second waist region;

an outer cover; and

at least one fastener comprising a single piece of flexible material having an anchor end, a user end opposite the anchor end, and an active fastening surface extending continuously thereon, at least a portion of the active fastening surface being located generally at the anchor end on the fastener for anchoring to said article generally at said first waist region and at least one other portion of the active fastening material being located generally at the user end on the fastener for fastening to said article generally at said second waist region to secure said article on a wearer, the active fastening surface being substantially covered by an active fastening material, the portion at the anchor end configured to have a first shear strength and the portion at the user end configured to have a second shear strength, the first shear strength being greater than the second shear strength.

35. The disposable absorbent article of claim 55, wherein the active fastening material comprises a plurality of hooks.

Claims 52 and 55 are directed to articles comprising, among other things, a fastener. As we interpret the claims, they require the fastener to comprise an active fastening surface that extends continuously from a portion for anchoring generally at a first waist region to a portion for fastening generally at a second waist region and that the active fastening surface be substantially covered by an active fastening material.

In addition, claims 11 and 55 each refer to an “anchor end” that has a shear strength that is greater than the shear strength of the “user end.” The

Examiner argues that “one can consider a smaller portion of the fastener as [having] the second shear strength and a larger portion of the fastener as [having] the first shear strength” (Answer 10). We agree with this interpretation.

The Specification indicates that a difference in shear strength can be provided by having a greater surface area of active fastening material on one end of a fastener relative to the other end of the fastener (Specification 19). In fact, claim 12 (which depends on claim 11) specifically recites that “the portion of active fastening material at the anchor end and the portion of the active fastening material at the user end have different surface areas corresponding to said first and second shear strengths.”

Claim 52, on which claim 11 depends, also recites that the fastener comprises “a single piece of flexible material having an active fastening surface extending continuously thereon, . . . the active fastening surface being covered substantially in entirety by an active fastening material.” As a result, the difference in shear strength in claims 11 and 12 can depend on how the fastener is attached to the landing regions, rather than on an actual difference between the two ends of the fastener. For example, if the fastener is applied to the landing material such that the anchor end of the fastener overlaps with its corresponding landing material to a greater extent than the user end of the fastener overlaps with its corresponding landing material, the anchor end would have a greater shear strength than the user end. Thus, we interpret claim 11 to include fasteners that are configured such that, when the anchor and user ends are attached to the landing material, the anchor end would have a greater shear strength than the user end.

We interpret claim 55, which contains substantially identical language, in the same way. *Cf. Fin Control Systems Pty v. OAM, Inc.*, 265 F.3d 1311, 1318, 60 USPQ2d 1203, 1208 (Fed. Cir. 2001) (“the same terms appearing in different portions of the claims should be given the same meaning unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims”).

2. REFERENCE

The Examiner relies on the following reference:

Keun	US 5,386,595	Feb. 7, 1995
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3. ANTICIPATION

Claims 3-5, 11-14, 16, 20, 26, 28, 29, 31, 33, 52-55, and 62 stand rejected under 35 U.S.C. § 102(b) as anticipated by Kuen. The rejection of claims 3-5, 20, 52-54, and 62 is not challenged (Br. 2). Therefore, we summarily affirm the rejection of claims 3-5, 20, 52-54, and 62 under 35 U.S.C. § 102.

The Examiner finds that Kuen, in the embodiment depicted in Figure 7, describes a disposable absorbent article according to claims 11 and 55 (Answer 3-6). With regard to the recitations in claims 11 and 55 that the first shear strength is greater than the second shear strength, the Examiner argues that “one can consider a smaller portion of the fastener as [having] the second shear strength and a larger portion of the fastener as [having] the first shear strength, thereby meeting the claimed limitations” (*id.* at 10).

We conclude that the Examiner has set forth a *prima facie* case of anticipation. Kuen describes an attachment system for maintaining a disposable absorbent article “in the crotch region of a wearer” (Kuen, col. 1,

ll. 10-16). The garment includes “a garment shell having a first end, an opposite second end and longitudinal sides extending between the ends” (*id.* at col. 1, l. 67, to col. 2, l. 2). “The garment shell . . . also has a first waist section adjacent to the first end and a second waist section adjacent the second end. A pair of first attachment pads are attached to the first waist section. . . . At least one second attachment pad is attached to the second waist section.” (*Id.* at col. 2, ll. 4-13.)

The garment also includes a pair of straps with fasteners attached to each of their ends, so that the fasteners on the ends of the straps can engage the attachment pads on the garment (*id.* at col. 2, ll. 14-21). In the embodiment depicted in Kuen’s Figure 7, “front and back hook patches **72** and **74** comprise the hook component of a hook-and-loop fastening system, while the strap members **76** comprise the loop component,” the loop material being attached “along the entire length of the strap member” (*id.* at Figure 7, col. 13, ll. 41-44, and col. 14, ll. 45-48). We agree with the Examiner that this strap can be attached to the hook patches such that one end of the strap provides a shear strength that is greater than that provided by the other end.

Appellants argue that Kuen fails to disclose that “the strap (e.g., strap 76A) has an anchor end configured to have a first shear strength and a user end configured to have a second shear strength wherein the first shear strength is greater than the second shear strength” (Br. 8, 11). Instead, Appellants argue, Kuen’s “strap (76A) is constructed the same at both longitudinal ends” (*id.*).

We are not persuaded by this argument. As discussed above, the difference in shear strength can be provided by having a greater surface area of active fastening material on one end of a fastener relative to the other end of the fastener (Specification 19). In addition, both claims 11 and 55 require that the fastener comprises a single piece of flexible material having a continuous active fastening surface that is substantially covered by an active fastening material. Thus, we do not interpret claims 11 and 55 to require that the fastener be constructed differently at its ends. Instead, the different shear strengths can be obtained by attaching a larger portion of the fastener to the landing material at one end than at the other end. Although Kuen does not appear to specifically describe attaching the strap members in this way, we agree with the Examiner that “one can consider a smaller portion of the fastener as [having] the second shear strength and a larger portion of the fastener as [having] the first shear strength” (Answer 10).

We conclude that the Examiner has set forth a prima facie case that claims 11 and 55 are anticipated by Kuen, which Appellants have not rebutted. We therefore affirm the rejection of claims 11 and 55 under 35 U.S.C. § 102. Claims 12-14, 16, 26, 28, 29, 31, and 33 fall with claims 11 and 55. 37 C.F.R. § 41.37(c)(1)(vii).

4. OBVIOUSNESS

Claims 7-9, 15, 30, and 35 stand rejected under 35 U.S.C. § 103 as obvious over Kuen. With regard to claims 7 and 35, the Examiner argues that “Kuen discloses a fastener wherein the active fastening material comprises a plurality of loops,” but that “[i]t would have been obvious to one of ordinary skill in the art to provide the active fastening material of

Kuen with hooks instead of loops since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art” (Answer 8). In particular, the Examiner argues that the claims do not require “covering the entire surface of the strap with hooks” (*id.* at 10-11) and that, “even if the material of Kuen only extended the width of the article as it does in figure 1, this may be considered as extending continuously” (*id.* at 11).

Appellants argue that Kuen fails

to show or suggest an absorbent article that includes a single piece fastener having a continuously extending active fastening surface in which a first portion of the fastener fastens to landing material located at a first waist region of the article and a second portion of the fastener fastens to landing material located a second waist region of the article, wherein the active fastening material comprises a plurality of hooks and the landing material comprises a plurality of loops.

(Br. 13.) Although Kuen discloses “that the strap . . . may . . . have hook patches 56 at the ends of the strap,” the “hook patches do not cover the entire active surface of the strap” (*id.*). In addition, “[i]f the entire active surface of the strap were covered with hooks, the hooks along the portion of the strap between the front and back of the garment (e.g., exposed to the wearer) would rub against and irritate the wearer” (*id.* at 14). Thus, Appellants conclude that “one would not be motivated by Kuen et al. to cover the entire active surface of the strap with a plurality of hooks” (*id.*).

We reverse the rejection of claims 7 and 35. We agree with the Examiner that the claims do not require that the entire surface of the fastener be covered with active fastening material, e.g., hooks. However, as discussed above, the claims do require that an active fastening surface

extends continuously from a portion for anchoring generally at the first waist region to a portion for fastening generally at the second waist region, and that the active fastening surface be substantially covered by an active fastening material. Thus, we do not agree with the Examiner that claims 52 and 55 read on the embodiment depicted in Kuen's Figure 1. Although each of hook regions 56 substantially covers an active fastening surface, we do not agree that they substantially cover an active fastening surface that extends continuously from a portion for anchoring generally at the first waist region to a portion for fastening generally at the second waist region.

In addition, we agree with Appellants that the Examiner has not set forth a prima facie case that it would have been obvious to cover the entire surface of Kuen's strap with hooks. Kuen discloses that the "loop material may be attached only at the forward and rearward end portions . . . , or along the entire length of the strap member" (Kuen, col. 14, ll. 45-48). In contrast, Kuen only discloses attaching hook patches "at each end portion . . . of each strap member" (*id.* at col. 9, ll. 16-18). Because we agree with Appellants that attaching hooks along the entire length of Kuen's strap would cause it to "rub against and irritate the wearer" (Br. 14), we agree with Appellants that one of ordinary skill in the art would not have been motivated to modify Kuen in this way.

We conclude that the Examiner has not set forth a prima facie case that claims 7 and 35, or claims 8 and 9, which depend from claim 7, would have been obvious over Kuen. We therefore reverse the rejection of claims 7-9, and 35 under 35 U.S.C. § 103.

With regard to claims 15 and 30, the Examiner argues that it would have been obvious “to modify the first and second shear strength of Kuen in order to determine the most effective product since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering . . . optimum or workable ranges involves only routine skill in the art” (Answer 8). We agree.

Appellants argue that claim 15 depends “directly or indirectly from claim 7 and [is] submitted to [be] non-obvious . . . for the same reasons as claim 7” (Br. 14). Similarly, Appellants argue that claim 30 “depends directly or indirectly from claim 55 and is submitted to be non-obvious . . . for the reasons set forth [for] . . . claim 55” (*id.*). However, claim 15 actually depends from claim 12. Because we have affirmed the § 102 rejection over Kuen of claims 12 and 55, on which claims 15 and 30 respectively depend, we are not persuaded by these arguments.

We conclude that the Examiner has set forth a *prima facie* case that claims 15 and 30 would have been obvious over Kuen, which Appellants have not rebutted. We therefore affirm the rejection of claims 15 and 30 under 35 U.S.C. § 103.

OTHER ISSUES

U.S. Patent No. 5,720,740 to Thomas (of record) describes a disposable diaper having a fastening system for maintaining a first waist portion and a second waist portion in an overlapping configuration (Thomas, col. 24, ll. 41-45). The fastening system has a manufacturer’s end and a user’s end and includes an array of prongs (*id.* at col. 26, ll. 22-54). The fastening system engages a receiving surface, which is a “stitch bonded,

non-woven fabric or any other type of fiber or loop material” (*id.* at col. 25, ll. 28-52). The Examiner should consider whether any of claims 7-9 and 35 would have been obvious over Thomas in view of Kuen, which discloses using its attachment system for disposable diapers (Kuen, col. 1, ll. 18-20).

In addition, claim 26 does not appear to further limit claim 55. Therefore, if prosecution of this claim is continued, this issue should be resolved.

SUMMARY

We affirm the rejection of claims 3-5, 11-14, 16, 20, 26, 28, 29, 31, 33, 52-55, and 62 under 35 U.S.C. § 102 and the rejection of claims 15 and 30 under 35 U.S.C. § 103. However, we reverse the rejection of claims 7-9 and 35 under 35 U.S.C. § 103.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

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SENNIGER, POWERS, LEAVITT & ROEDEL
16TH FLOOR
ONE METROPOLITAN SQUARE
ST. LOUIS, MO 63102